

## *Information*

### Cardiomyopathies

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*Material Supplied by the American  
Heart Association*

CARDIOMYOPATHIES are a group of disorders in which there is progressive deterioration of myocardial function without significant coronary artery disease, systemic arterial hypertension, rheumatic valvulitis, or infectious endocarditis. This group contains some of the least well understood diseases which involve the heart.

The myocardial diseases are usually divided into two classifications: (1) the idiopathic cardiomyopathies, and (2) the secondary cardiomyopathies. The latter group is made up of systemic diseases which involve the heart as part of a recognized disease process, such as scleroderma, amyloidosis, sarcoidosis, systemic lupus, Friedreich's ataxia, progressive muscular dystrophy, myotonia atrophica, hemochromatosis and glycogen storage disease, to name a few.

The idiopathic cardiomyopathies make up an ill-defined group of poorly classified diseases, some of which are familial. The non-familial group is composed of alcoholic cardiomyopathy, post-partum cardiomyopathy, hypertrophic subaortic stenosis and idiopathic cardiac hypertrophy. In the bulk of patients with idiopathic cardiomyopathy, the cause is obscure.

The patient with cardiomyopathy will often present with either the symptoms of his underlying disease (in secondary cardiomyopathies) or with angina, syncope or congestive heart fail-

ure. On occasion the asymptomatic patient is detected because an x-ray film reveals an unexplained enlargement of the heart or routine electrocardiogram reveals an unexpected conduction disturbance or other QRS-T abnormality. The basic differential diagnosis must always include coronary artery disease and rheumatic heart disease. Patients with cardiomyopathy and pronounced cardiomegaly frequently have the murmur of mitral insufficiency; the differentiation between primary valvular disease and primary myocardial disease resulting in valvular deformity is sometimes difficult. It is most advisable that cardiac catheterization and coronary arteriography be carried out in all patients suspected of cardiomyopathy, since coronary artery disease may present without chest pain. Thus, the patient who appears to have cardiomegaly and congestive heart failure due to cardiomyopathy, may actually have severe coronary artery disease (with or without ventricular aneurysm) and may be a candidate for surgical therapy.

The treatment of patients with cardiomyopathy is directed toward relief of the symptoms of the underlying disease and toward management of the congestive heart failure. Relief of left ventricular outflow tract obstruction, if present, is indicated. The heart failure in this group of patients is frequently severe and difficult to control. Digitalis, diuretics and a salt-free diet remain the mainstays of therapy. Patients with cardiomyopathy frequently accumulate extraordinary amounts of edema fluid and the temptation to produce rapid diuresis in the newly discovered patient may lead to large potassium losses and digitalis intoxication.

Three areas of therapy are controversial and require special consideration. There is some evidence to suggest that prolonged bedrest with severely restricted activity is of value. Second, steroid therapy is often advocated in the use of cardiomyopathy. Third, anticoagulation has been recommended as sound preventive therapy for people with primary myocardial disease. The rationale underlying the recommendations for anticoagulation stems from the frequency of pulmonary and systemic embolism in these patients.

In summary, the primary myocardial diseases present a broad array of pathologic processes directly involving the myocardium. A small number of patients with this disorder are affected

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with a systemic disease which also involves the heart. The greater number are affected by an idiopathic form of cardiomyopathy. Most patients in whom this diagnosis is entertained should undergo cardiac catheterization to rule out the possibility of a specifically treatable form of heart disease. In the absence of specific ther-

apy, digitalis, diuretics and salt restriction remain the most useful forms of treatment of the heart failure which invariably accompanies these disorders at some time in their course. There is no convincing evidence that prolonged bedrest, steroids, or anticoagulants alter the course of these diseases.

### HYPERKALEMIA HAZARD IN LOW-PROTEIN DIET

"Hyperkalemia is a real danger for renal failure patients who are on the Giovannetti-Giordano low-protein diet. About half the patients develop problems, sometimes quite serious. Even without the diet, the uremic patient may develop hyperkalemia—it's one of the major problems of the uremic syndrome.

"Major sources of dietary potassium are meat and vegetables. We've eliminated the meat in the Giovannetti-Giordano diet, but the vegetables still present a problem, particularly as vegetable intake is increased. If an acceptable level of potassium is less than 200 mg per 100 grams of vegetable (a third of a package of frozen vegetables), very few vegetables fall below this value. Cucumbers, dry onions, and some types of lettuce, frozen peas, and green beans are about the only vegetables available at that potassium level.

"Cooking reduces these values just slightly. More effective is a special method of preparation involving nothing more than soaking the vegetables in water at 50° C [122° F] for two hours. It's certainly very simple to do; it requires no special training or equipment and no change in cooking methods. There is a significant fall in the potassium level with just this simple measure. With frozen and fresh vegetables there's no change in the flavor. With canned vegetables there's a decided change and these become almost unpalatable. Potatoes, beets, carrots, and other tuberous vegetables should be sliced about an eighth of an inch thick and then soaked for maximum potassium withdrawal. Such treatment also lowers sodium values where they are a problem, even to negligible which is less than 2 mg per 100 grams of vegetable.

"With this special method of preparation, only a few vegetables are over 200 mg per 100 grams of vegetable. . . . Those vegetables are by and large the unleechables, such as the avocado, which would not do well being soaked."

—PETER N. HILLYER, M.D., Philadelphia

Extracted from *Audio-Digest Internal Medicine*, Vol. 16, No. 15, in the Audio-Digest Foundation's subscription series of tape-recorded programs. For subscription information: 619 S. Westlake Ave., Los Angeles, Ca. 90057.